

Amendment to the Claims

The listing of claims will replace all prior versions, and listings of claims in the Application.

1. *(Currently amended)* A system for processing image data representing biometric data, the system comprising:

 a receiving module for receiving image data captured in a first, polar coordinate system; and

 a coordinate conversion module coupled to the receiving module for converting the image data captured in the first, polar coordinate system to converted image data in a second coordinate system.
2. *(Original)* The system of claim 1 further comprising a memory coupled to the coordinate conversion module.
3. *(Currently amended)* The system of claim 1[[.]] wherein the second coordinate system is a rectangular coordinate system.
4. *(Canceled)*

5. *(Currently amended)* The system of claim 1 further comprising a scanning and capturing system coupled to the receiving module wherein the scanning and capturing system comprises:

a substantially conical ~~non-planar~~ prism; and

a scanning imaging system optically coupled to the substantially conical ~~non-planar~~ prism for capturing image data in a first, polar coordinate system and for communicating the image data to the receiving module.

6. *(Currently amended)* The system of claim 5[[4]] wherein the scanning and capturing system is coupled to the receiving module via a data network.

7. *(Original)* The system of claim 5 wherein the second coordinate system is a rectangular coordinate system.

8. *(Canceled)*

9. *(Currently amended)* A system for processing image data representing biometric data, comprising:

- a substantially conical ~~non-planar~~ prism;
- a scanning imaging system optically coupled to the substantially conical ~~non-planar~~ prism for capturing the image data in a first coordinate system; and
- an image conversion system coupled to the scanning imaging system for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

10. *(Currently amended)* The system of claim 9 wherein the image conversion system includes:

- a receiving module for receiving image data captured in a first, polar coordinate system; and
- a coordinate conversion module coupled to the receiving module for converting the image data captured in the first, polar coordinate system to converted image data in a second coordinate system.

11. *(Original)* The system of claim 10 wherein the image conversion system further comprises a memory coupled to the coordinate conversion module.

12. *(Original)* The system of claim 11 wherein the second coordinate system is a rectangular coordinate system.

13. *(Canceled)*

14. *(Currently amended)* The system of claim 11 wherein the substantially conical non-planar prism is a conical prism.

15. *(Currently amended)* A system for processing image data representing biometric data, comprising:

a biometric imaging system comprising:

a substantially conical non-planar prism, an scanning imaging system optically coupled to the substantially conical non-planar prism for capturing the image data in a first coordinate system, and a first image conversion system coupled to the scanning imaging system for generating and storing conversion data; and

a second image conversion system coupled to the biometric imaging system for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

16. *(Original)* The system of claim 15 wherein the first image conversion system includes:

 a receiving module for receiving image data captured in a first coordinate system;
and

 a coordinate conversion module coupled to the receiving module for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

17. *(Original)* The system of claim 16 wherein the second image conversion system includes:

 a receiving module for receiving image data captured in a first coordinate system;
and

 a coordinate conversion module coupled to the receiving module for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

18. *(Original)* The system of claim 15 wherein the second coordinate system is a rectangular coordinate system.

19. *(Original)* The system of claim 18 wherein the first coordinate system is a polar coordinate system.

20. *(Currently amended)* A system for processing image data representing biometric data, wherein the system comprises~~comprising~~:

a conversion module configured to convert~~means for converting~~ image data captured in a first, polar coordinate system to converted image data in a second coordinate system.

21. *(Original)* The system of claim 20 wherein the second coordinate system is a rectangular coordinate system.

22. *(Canceled)*

23. *(Currently amended)* A method for processing image data representing biometric data comprising:

receiving the image data captured in a first, polar coordinate system and storing the captured image data; and

converting the captured image data in the first, polar coordinate system to converted image data in a second coordinate system.

24. *(Original)* The method of claim 23, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

25. *(Canceled)*

26. *(Currently amended)* The method of claim 23, wherein the method further comprises ~~comprising~~: generating and storing a conversion data array including coordinate and offset data.

27. *(Original)* The method of claim 23, further comprising:
prior to receiving captured image data, receiving criteria associated with specifications for processing the captured image data; and
generating and storing at least conversion data array corresponding to the received criteria.

28. *(Original)* The method of claim 27 further comprising generating and storing at least one conversion parameter corresponding to the received criteria.

29. *(Currently amended)* The method of claim 27 wherein one of the at least one conversion parameter includes a parameter indicating an the interpolation method to be used during conversion.

30. *(Original)* The method of claim 27 wherein each of the at least one conversion data array is generated dynamically.

31. *(Canceled)*

32. *(Currently amended)* A method for processing image data representing biometric data in a system having a scanning and capturing system and an image conversion system, comprising:

generating and storing conversion data in the image conversion system;

capturing in the scanning and capturing system the image data in a first, polar coordinate system;

communicating the captured first, polar coordinate system image data to the image conversion system; and

converting the captured first, polar coordinate system image data to converted image data in a second coordinate system.

33. *(Canceled)*

34. *(Currently amended)* The method of claim ~~32~~³³, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

35. *(Canceled)*

36. *(Canceled)*

37. *(Canceled)*

38. *(Currently amended)* A method for processing image data representing biometric data, the system comprising:

capturing the image data in a first, polar coordinate system; and

converting the captured image data in the first, polar coordinate system to converted image data in a second coordinate system.

39. *(Canceled)*

40. *(Original)* The method of claim 38, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

41. *(Currently amended)* The method of claim ~~38~~40, further comprising~~[[÷]]~~ generating and storing conversion data, wherein the conversion data includes ~~including~~ polar coordinate and polar offset data.

42. *(Canceled)*

43. (New) A method for processing image data representing biometric data, the method comprising:

receiving the image data captured in a first coordinate system and storing the captured image data; and

converting the captured image data in the first coordinate system to converted image data in a second coordinate system, wherein the converting comprises:

for each pixel in an output rectangular area, the steps of:

performing a look up to obtain conversion data including the coordinate data and the offset data associated with respective pixel coordinates;

retrieving at least one sample of stored captured image data; and

interpolating each retrieved sample with weighting based on the looked up offset data to obtain a respective pixel value in the second coordinate system.

44. (New) A method for processing image data representing biometric data in a system having a scanning and capturing system and an image conversion system, the method comprising:

generating and storing conversion data in the image conversion system;

capturing in the scanning and capturing system the image data in a first coordinate system;

communicating the captured first coordinate system image data to the image conversion system; and

converting the captured first coordinate system image data to converted image data in a second coordinate system, wherein the converting comprises: for each pixel in an output rectangular area, the steps of:

performing a look up in a conversion data array to obtain conversion data including the coordinate data and the offset data associated with respective pixel coordinates;

retrieving at least one sample of stored captured image data; and

interpolating each retrieved sample with weighting based on the looked up offset data to obtain a respective pixel value in the second coordinate system.

45. *(New)* The method of claim 44 wherein the step of interpolating each retrieved sample includes calculating the weighting.

46. *(New)* The method of claim 44 wherein the step of interpolating each retrieved sample includes performing a look up to determine the weighting.

47. (New) A method for processing image data representing biometric data, the method comprising:

capturing the image data in a first coordinate system;

converting the captured image data in the first coordinate system to converted image data in a second, rectangular coordinate system, wherein the converting comprises:

for each pixel in an output rectangular area, the steps of:

performing a look up to obtain conversion data including the polar coordinate data and the offset data associated with respective pixel coordinates;

retrieving at least one sample of stored polar space image data; and

interpolating each retrieved sample with weighting based on the looked up polar offset data to obtain a respective pixel value in rectangular image space; and

generating and storing conversion data, wherein the conversion data includes polar coordinate and polar offset data.